Answers Chp 6 Review

- 5. a) 2CO + $O_2 \Rightarrow 2CO_2$
 - b) $Cl_2 + 2KBr \Rightarrow Br_2 + 2KCl$
 - c) balanced
- 6. a) Ca $+ 2HBr \Rightarrow CaBr_2 + H_2$
 - b) $4AI + 3O_2 \Rightarrow 2AI_2O_3$
 - c) balanced
 - d) $3Ba + 2H_3PO_4 \Rightarrow Ba_3(PO_4)_2 + 3H_2$
 - e) $3CaCl_2 + Al_2(SO_4)_3 \Rightarrow 3CaSO_4 + 2AlCl_3$
 - f) $C_3H_8 + 5O_2 \Rightarrow 3CO_2 + 4H_2O$

12. Mass of reactants = Mass of products metal + acid solution = product + gas 3.4 g + 102.5 g = 105.6 g + x (gas) 105.9 g = 105.6 g + x (gas) x (gas) = 105.9 g - 105.6 g = 0.3 g The mass of gas produced is 0.3 g.

a)
$$C_5H_{12}$$
 + 8 O_2 \Rightarrow 5 CO_2 + 6 H_2O complete combustion

b)
$$C_4H_{10} + 4O_2 \Rightarrow CO_2 + CO + 2C + 5H_2O$$

incomplete combustion

c)
$${}^{2}C_{6}H_{14} + {}^{19}O_{2} \Rightarrow {}^{12}CO_{2} + {}^{14}H_{2}O$$

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Part D
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calcium + acid \Rightarrow product + gas

4.5 g + 103.8 g \Rightarrow 109.4 g + ?

108.3g \Rightarrow 108 g + ?

108.3 g - 108g = 0.3 g
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The law of conservation of mass states that the mass of the reactants must equal the mass of the products in a reaction. The mass that is missing is the mass of the gas because it has evaporated into the air and cannot be measured in the beaker.